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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,665	02/09/2007	Jean-Ronan Vigouroux	PF030161	5715

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EXAMINER

TORRES, JOSE

ART UNIT	PAPER NUMBER
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2624

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11/15/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,665	Applicant(s) VIGOUROUX ET AL.	
	Examiner JOSE M. TORRES	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Comments

1. The Amendment – After Non-Final Rejection filed on August 23, 2010 has been entered and made of record.

Claim Objections

2. Claims 1 and 6 are objected to because of the following informalities:
 - Claim 1 lines 8-10: “*the classifying comprises the step of providing to a learning-based decision system, said attributes and the number or lines in each angular interval, detecting the orientation of the image*” should be -- the classifying comprises the steps of providing to a learning-based decision system, said attributes and the number of lines in each angular interval, and detecting the orientation of the image --
 - Claim 6 lines 10-11: “*the number or lines in each angular interval, means for detecting the orientation of the image*” should be -- the number of lines in each angular interval, and means for detecting the orientation of the image --

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Specification fails to provide a specific structure of an apparatus comprising at least the means for detecting, means for calculating, means for classifying, means for providing and the means for detecting as claimed.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pal et al. ("*Machine-printed and hand-written text lines identification*", Pattern

Art Unit: 2624

Recognition Letters 22, 2001, pp. 431-441) in view of Le et al. (*“Document Image Analysis Using Integrated Image and Neural Processing”*, Proceedings of the Third International Conference on Document Analysis and Recognition, 1995, Vol.1, pp.327-330).

As to claims 1, 6 and 8, Pal et al. teaches a method/device (*“SUN 3/60 machine”*, Page 441)/ non-transitory computer readable medium having a computer program thereon for performing a method (*“The experiments were programmed using C language”*) for detecting the orientation of an image, comprising the steps/means for (*“microprocessor MC68020”*) of: – detecting lines in the image (*“the system should properly detect individual text columns and should accurately segments the lines from each text column.”*, **3. Preprocessing**, pp. 433-434), – calculating for each line detected, attributes (*“projection profiles”*) characterizing each line (**3. Preprocessing**, pp. 434-435), and – classifying each line into angular intervals according to its orientation (*“the mode of the text (portrait or landscape mode) of the document is determined.”*, pp. 434-435).

However, Pal et al. fails to teach wherein the classifying comprises the steps of – providing to a learning-based decision system, said attributes and the number of lines in each angular interval, and – detecting the orientation of the image by comparing said attributes with system models from the learning-based decision system.

Le et al. teaches (*“DELL 486D/50 PC”*, Page 329) a means for classifying that comprises the steps/means for – providing to a learning-based decision system (**2. Document Analysis System**), attributes characterizing detected lines (*“projection*

Art Unit: 2624

histograms”), and the number of lines each angular interval (*“amount of fluctuations”*), and – means for detecting the orientation (*“portrait or landscape”*) of an image by comparing said attributes with system models (*“projection histogram that has more fluctuations”*) from the learning-based decision system (**2.1 Page Orientation Process**, pp. 327-328).

Pal et al. and Le et al. are combinable because they process image data to determine its orientation according to features present in the lines of the image.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Pal et al. by incorporating the learning-based system to determine the orientation of the image by comparing attributes to system models.

The suggestion/motivation for doing so would have been the reduction of detection errors by minimizing the effects of non-textual data for page orientation decisions (Abstract, **1. Introduction and Background and, 2. Document Analysis System**, pp. 327-328).

Therefore, it would have been obvious to combine Pal et al. with Le et al. to obtain the invention as specified in claims 1, 6 and 8.

As to claim 4, Le et al. teaches a step of – detecting the inclination of the lines detected (**2.2 Skew Angle Process**), and that the attributes characterizing the lines detected of the image comprise parameters relating to the inclination of the lines (*“The projection profiles method determines the page orientation by analyzing the shapes of*

Art Unit: 2624

the horizontal and vertical projection histograms.”, Step 1.2 Textual Squares Page Orientation Estimation, Page 328).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pal et al. in view of Le et al. as applied to claim 1 above, and further in view of Li et al. (U.S. Pat. No. 7,088,474). The teachings of Pal et al. and Le et al. have been discussed above.

As to claim 2, Pal et al. and Le et al. fails to teach wherein the step of detecting the lines in the image comprises: – detecting contours, and – thresholding the gradient of luminance of the points belonging to each contour detected.

Li et al., within the same field of art (“*edge orientation detection*”, Col. 5). teaches a step of detecting lines comprising – detecting contours (“*The edge detector **104** of the image enhancing system **100** operates to determine whether a current image block of an input image contains an edge*”, Col. 4 lines 23-31), and – thresholding the gradient of luminance of the points belonging to each contour detected (Col. 5 line 45 through Col. 6 line 25).

Therefore, in view of Li et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Pal et al. and Le et al. by incorporating the detection of edges and the thresholding of the luminance gradient for edge pixels in order to determine the correct orientation among different possible orientations (Col. 5 line 45 through Col. 6 line 25).

Response to Arguments

Information Disclosure Statement

8. With respect to the communications of December 31, 2007, a Transmittal Letter accompanying a Foreign Reference was received, as commonly used when submitting Information Disclosure Statement. Since the Application No. was in error, the mistake has been noted. Therefore, the objection to the IDS has been withdrawn.

Claim Rejections under 35 U.S.C. § 112

9. With respect to claim 6, Applicant's amendment have been considered. It appears to be that claim 6 is being construed to invoke 35 U.S.C. § 112, sixth paragraph. However, the Specification fails to provide proper support for a device comprising at least the means for detecting, means for calculating, means for classifying, means for providing and the means for detecting (MPEP § 2181). Therefore, claim 6 is rejected under 35 U.S.C. § 112, first paragraph, as set for above in this Office Action.

10. With respect to claims 1-7, more in particular to the limitation "*the lines*", Applicant has amended claims 1 and 6 to provide proper antecedent basis for the limitation in the claims. Therefore, the rejections have been withdrawn.

Claim Rejections under 35 U.S.C. §§ 102 and 103

11. With respect to claims 1-7, Applicant's arguments (Remarks, Page 5, Section D through Page 8 line 24) have been fully considered but they are moot in view of the new ground(s) of rejection.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Imade et al. disclose a Segmentation and Classification for Mixed Text/Image Documents Using Neural Network, and Wong et al. disclose a Document Analysis System.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2624

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE M. TORRES whose telephone number is (571)270-1356. The examiner can normally be reached on M-F: 10:00am-6:30pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571)272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jose M. Torres/

11/06/2010

Examiner, Art Unit 2624

/Brian Q Le/

Primary Examiner, Art Unit 2624